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ABSTRACT

Rational-Emotive Therapy (RET) is predicated on a theory of causality. According to Ellis (1962), beliefs regarding an event, and not the event itself, cause emotional reactions. Mentally healthy persons practice this rational theory of causality. Neurotic persons accept an irrational theory of causality based on coincidental or correlational data. Therapeutic change occurs when irrational theories are tested, refuted, and replaced by rational ones. The ontogenetic development of theories of causality as described by Piaget (1952, 1954, 1960) parallels therapeutic development. Young children possess irrational theories of causality. As they mature, their experiences within a natural environment refute the irrational theories and lead to the development of rational ones. The similarities between developmental and therapeutic progress suggest that rational-emotive educators must be knowledgeable in both cognitive developmental theories and the RET framework. (NRB)

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RATIONAL EMOTIVE EDUCATION AND THE DEVELOPMENTAL STAGES OF JEAN PIAGET

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RATIONAL EMOTIVE EDUCATION AND THE DEVELOPMENTAL STAGES OF JEAN PIAGET

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Traditionally, problems of causality have been grist for the philosopher's mill. It was the philosopher who wondered how we know that two events are causally related, or if the ability to causally conjoin events was acquired by organisms, or native to organisms (Hume, 1739; Kant, 1781). Today, interest in causality is no longer exclusively the philosopher's perogative. Working from either the clinical perspective of Albert Ellis, or the developmental framework of Jean Piaget, contemporary psychologists are explicitly concerned with problems of causality.

In presenting the ABC's of rational emotive therapy, Ellis (1962) articulates not only the distinction between irrational and rational theories of causality, but also the method of therapeutic progress: argumentation. In this paper, I hope to show that the ontogenetic development of theories of causality as described by Piaget (1952, 1954, 1960) parallels -- in content and method -- therapeutic development.

I shall then argue that if developmental progress and theraputic progress are variations on the same theme, then rational-emotive educators put into practice not only a therapeutic theory, but indeed also a developmental theory. It is therefore suggested that rational-emotive educators be as explicitly aware of cognitive developmental theories, as they are of the RET framework.

I. RET: Toward Rational Theories of Causality

Rational-Emotive Therapy is predicated on what is essentially a theory of causality. Ellis (1962, 1971; Ellis and Grieger, 1977) has argued that beliefs

regarding an event, and not the event itself, cause emotional reactions. Mentally healthy individuals understand and practice this rational theory of causality. Personal responsibility is taken for personal emotional reactions. The rational individual may, for example, say the following: "I was upset because I momentarily believed that getting fired would wreck the whole next year of my life." Further, personal responsibility is not taken for the emotional reactions of others. The rational indivudual, for example, realizes that "My friend is upset because she believes that my not writing means that I don't like her."

Neurotic individuals, by contrast, implicitly (and tenaciously) accept an irrational theory of causality: personal responsibility is not taken for personal emotional reaction. The individual, for example, may believe "I'm upset because I was fired." Yet, personal responsibility is taken for the emotional reactions of others. Here, a typical belief might be: "My friend is upset because I didn't write to her."

Irrational causal theories presumably are based on some coincidental or correlational data. In the above examples, the firing did occur shortly before I became upset, and I have not written to my friend for a long time. The neurotic uses this data to justify his or her position. But justification is logically invalid (Popper, 1962, 1972; Weimer, 1979). Specific instances -- no matter how many or how consistent -- never logically entail any generalization. The generalization must remain conjectural, no more than tentatively accepted, and open to possible future refutation. Should refutation occur, then logic demands that the generalization be discarded.

The task of the RET therapist is to confront the patient with this logic. The patient is encouraged to test his or her theories -- that is, to look for actual or even potential refuting instances. Therapeutic change occurs when irrational theories of causality are tested, refuted, and replaced by better, rational theories

of causality. While the neurotic implicitly believes "I control, or am responsible for everything except myself;" the rational individual understands that, in fact, "I have control over little else except myself."

II. Child Development: Spontaneous Progress Toward RET Goals

Jean Piaget (1952, 1954, 1960, 1962, 1974) has studied the ontogenetic development of theories of causality. Piaget's studies of infants, toddlers, and school-age children suggest that early theories of causality are irrational. They, like the neurotic's irrational theories, are based on coincidental or correlational data. In their early stages these irrational theories are tenaciously held, and effectively immunized from refutation. Moreover, the patterns of responsibility implicit in these immature causal theories mirror the patterns of responsibility implicit in neurotic causal theories.

Consider the example of infant hand regard (Bower, 1979). Young infants (under 20 weeks old) attempting to grasp an object are often distracted when their own hand enters their visual field. Though the movement of their hand is obviously self-initiated, the sight of their hand comes as a complete surprise. I suggest that this may be interpreted as evidence of an immature theory of physical causality regarding personal action: the infants are behaviorally denying that they are the causal agent of their own actions.

Yet concurrently they are probably behaviorally asserting that they are the causal agent of the actions of others. Piaget's observation of his daughter Jacqueline illustrates this:

> At 0;8 (9) Jacqueline is lying down looking at a saucer which I swing about 50 centimeters in front of her eyes. She reveals a lively interest and expresses her pleasure by the well-known behavior of arching herself upward, with her weight on her feet and shoulder blades, and then letting herself fall in a heap. I pass the saucer before her again. She watches it smiling, then stares at it seriously and attentively and arches upward a

> second time. When Jacqueline has fallen back again I pass the object before her once more; the same play three more times. After this I hold the object motionless before her; she arches herself again two or three times, then proceeds to something else. I resume twice; as soon as the saucer is motionless Jacqueline arches upward again. I then definitely pause in my game; Jacqueline nevertheless draws herself up five or six times more, while looking at the object, then tires of it. Every time the child's gesture has been followed by the saucer's movement, Jacqueline has manifested great satisfaction; otherwise, an expression of disappointment and expectation (Piaget, 1954, p. 269).

As with the irrational theories of neurotics, irrational or magical theories of infants seem to be based on coincidental data: the infants did not expect to see their hands, and on a number of occasions Jacqueline's "arching" was followed by the swinging saucer. In both cases, correlated relationships are not distinguished from causal relationships.

Experiences within a natural environment refute these irrational theories of physical causality and lead to the development of rational theories of physical causality (at least at the behavioral level).

With repeated experience, infants gradually habituate to the sight of their own hands and are no longer distracted by them. Reaching accuracy improves -- the infants' hands are gradually brought under better and better purposeful control. The magical view that outside forces cause personal events is replaced by attention to the efficacy of the self in determining purposeful personal activity.

For external events, typically around the first year, infants show an increased interest in and utilization of intermediaries between their own actions and the end event. The following observation by Piaget illustrates this point:

> At 1;0 (3) Jacqueline is before me and I blow into her hair. When she wants the game to continue she does not try to act through efficacious gestures nor even, as formerly, to push my arms or lips; she merely places herself in position, head tilted, sure that I will do the rest by myself (1954, p. 311).

The earlier magical theory of causality is replaced by a more "behaviorally rational" theory of causality.

Development occurring behaviorally during infancy is reconstructed symbolically during early childhood. In this second stage of cognitive development -- which Piaget has termed preoperational -- we see again immature theories of physical causality which implicitly proclaim: "I can control everything except things that have to do with me!" It is not until those theories are tested and refuted that they are gradually replaced with the rational and more modest proclamation: "I have control over little-else except myself!"

For the preoperational analogy to hand-regard, consider, preschoolers who are "ant-sie," they squirm in their seats, and seem unable to sit quietly and read a book. When asked, "Why don't you sit still?" they most likely will reply, "I can't help it." Like the infant, they are surprised and distracted by their own body movements.

Hans Furth (1970; Furth and Wachs, 1974) -- a Piagetian educator -- has argued that during the preoperational stage, educators are often so concerned with the child's blossoming representational ability, that little or no attention is given to what he calls "movement thinking": the efficient causal knowledge of one's own body that allows one to control it with ease rather than battle it. Furth suggests a graded set of movement thinking games in which the children begin with a set of movements that they have mastered, and then proceed to try increasingly more difficult sets. By beginning with a set of already mastered movements, Furth presents the children with a clear refutation to the general theory "I can't control my body." Gradually, as the children gain mastery over more and more movement sets, a theory of personal control emerges.

Preoperational theories of causality of external events are illustrated by Piaget's observation of his daughter Lucienne:

> At 3; 2 (20) ... Lucienne heard a wagon on a road at right angles to the one on which we were, and was frightened: "I don't want it to come here. I want it to go over there." The wagon went by, as she wished: "You see, it's going over there because I didn't want it to come here " (1962, p. 258).

One can imagine that contiguity and verification are again at the heart of this magical set of beliefs: If I wish for the car to go in that direction it will go in that direction. It did go in that direction. Therefore, the power of my wishing is supported. Preoperational children tenaciously protect these magical beliefs. Supporting instances are remembered in detail and are told and retold again and again. Refuting instances are either ignored, forgotten or explained away by what might be called "post hoc auxiliary hypothesis."

Now clearly these magical belief systems are irrational. Preoperational children are irrational creatures. By and large, they are in the process of developing, but do not yet have, a cognitive system that in a broad sense might be called "logical." The cognitive structures of preoperational, (or pre-logical) children are incomplete and thus necessarily unstable. Contradictory statements are not yet logically connected. It is this pre-logic that accounts for the now legendary non-conservation statements of pre-operational children. Typically, children are shown two equal glasses of water. The water from one glass is then poured into another different sized glass and the children are asked if the two filled glasses still contain equal amounts of water. The children answer "no" -- the taller one has more. "Did the first two glasses have the same amount of water?" "Yes." "Did I add any water or spill any water when I did the pouring?" "No." "Well then, do these two glasses have the same amount of water?" "No." The children are indeed reasoning about the situation, but their reasoning is, if you will pardon the pun, fluid; it is not yet constrained by the rigors of logic.

Until they understand that a statement and its negation cannot simultaneously be true, they cannot test their theory. Rather, in lieu of testing, supportive evidence is marshalled and the theory is dogmatically accepted as true -- no longer in need of testing. It is not until the cognitive structures become "operational" (≈7) that a refutation can signal a flaw in the existing theory. Once this counter-

evidence is acknowledged, the belief system must be changed. The new belief system must account for the success of the replaced system; and it must also pass those tests that the previous system failed. In this manner, magical causal systems can be tested, refuted and replaced by more rational causal systems.

I suggest that normal cognitive development is an example of what might be called "ecological or spontaneous RET": development, that is, is synonomous with the effects of disputation.

III. REE: Therapeutic and Developmental Theories in Practice

All children first construct irrational theories of physical causality. Similarly, all children, unless they are severely damaged, criticize those irrational theories and construct rational theories of physical causality. The statement "The sun in shining today because I'm playing baseball this afternoon" is quite typical if the speaker is 6 years old; and is decidedly bizarre if the speaker is 18![1]

All children first construct irrational theories of psychological causality. Yet relatively few children criticize those irrational theories and construct rational theories of psychological causality. "My parents are angry because I broke their stereo," could be a typical statement of either a 6 year old or an 18 year old.

Why the striking asymmetry between developmental progress in the physical domain and developmental arrest in the psychological domain? A developmental lag is expected since reasoning about tangible, concrete objects is easier than reasoning

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[1]A common regressive example among adults is "It's raining because I just washed my car!" Though this expression is now almost idiomatic, I doubt that many adults would argue the validity of the proposed causal connection.

about ephemeral, abstract experiences (Piaget and Inhelder, 1969). Yet such a lag can hardly account for the overwhelming percentage of adolescents and adults who cling to immature, irrational theories of psychological causality. This developmental arrest is, I believe, a consequence of an impoverished environment--an environment that does not challenge the irrational causal theories held by most people.

Rational-emotive education (Knaus, 1974) is proposed as an antidote to developmental arrest. It is, by design, a challenging environment, in which immature theories of psychological causality are scrutinized, refuted, and replaced by more mature theories.

With adults and adolescents, it may be assumed that irrational causal systems are almost exclusively the result of a non-challenging environment, and so REE intervention tactics ought to be quite successful. But what about younger populations--which are, incidently the explicit target of the REE approach?

Developmental progress is predicated not simply on the existence of a refutation, but on the acceptance of a refutation. Piaget (Piaget and Inhelder, 1969) has shown that, at each developmental stage, as a new cognitive ability emerges, so does a new cognitive limitation (see especially Elkind, 1974, chapter 6). While the preoperational child is eminently more sophisticated than the infant, the preoperational child nevertheless lacks a cognitive system that is stable. Thus, while there may be many instances where a preoperational child accepts a contradiction, it is likely that this acceptance is situational, unstable, and reached by a-logical reasons. For example, consider the following conservation of weight experiment. The child is presented with two balls of clay and is asked to adjust them until they are "the same"--that is, one weighs as much as the other. A balance scale is provided for the child to check that they actually do weigh the same. Now, the experimenter takes one ball, and makes two balls out of it. The child is asked,

"Which weighs more, the one large ball; the two small balls; or are they both the same?" The preoperational child readily asserts that comparisons are now decidedly not equal. Now clearly this response can be contradicted -- the clay balls can be weighed and compared. The child -- though surprised -- may certainly accept the evidence that they are equal but still has no idea that they must be equal. This distinction is easy to illustrate. Suppose the experiment is repeated. This time, the child may indeed predict that the comparisons will be equal. But suppose that in the process of picking up one of the balls of clay, the experimenter secretly adds a small piece of lead to it. The scales of course do not balance; the child is again contradicted; and probably says something like "I should have kept the same answer I gave last time. Let's try it again." Now if this same experiment (and the secret addition of the lead) is performed with a child at mid-concrete operations (9 or 10), something very different happens. The conserver does not judge by appearances, but judges by logic. If you did not add or subtract any clay to the balls then they not only are equal, but they must be equal. When the balance contradicts that information, a child who is reasoning from logic rather than from appearances will say, "You cheated!"

The RET therapist or the RET educator working with a preoperational child must acknowledge the likelihood of disputations being quickly and superficially accepted without an understanding of their underlying implications. Such situational modelings may indeed have some practical value: the child may begin to develop some verbal habits that he/she will later cognitively "grow into." In this case, the child is not participating in the rational aspect of either RET or REE -- rather, the procedure is more closely allied with pure behavior modification. For the child to interact rationally with the therapist and/or the educator, the attainment of concrete operations is necessary.

The testing, and eventually the discarding of magical causal theories is intimately connected with the development of perspective. Developmental research suggests that competence in judging other perspectives is not generally reached until middle concrete operations. The prototypic Piagetian experiment in this area is the "three mountains experiment." The child views a three dimensional display and is then asked what someone else would see from another physical vantage point. Preoperational children typically respond that the observer would see exactly what they are seeing. Early concrete operational children generally acknowledge that an observer at a different location would see something different than they do -- but they fail to accurately specify exactly what the observer would see. A few years later (9 or 10) most children can accurately respond to the three-mountains questions, that is, they are able to accurately predict what a physical event looks like from another point of view.

Within the domain of psychological events, the development of social perspective is quite similar to the development of spacial perspective. Children are told a story that involves multiple characters who are likely to have conflicting judgments regarding a particular behavior (Selman, 1976). Each child is then asked to comment on the situation from the point of view of each character. For preoperational children all characters have the same point of view -- theirs. Early concrete operational children begin to recognize the existence of other points of view, but continue to insist that only one point of view -- usually theirs -- can be the right one. Middle concrete children can increasingly appreciate that multiple conflicting points of view can simultaneously be valid. Now this blossoming ability to understand another's social perspective is certainly not yet fully developed, but, the ability is cognitively stable enough so that when children are wrong in their estimates they can generally follow the logic of the disputation and thus can learn from their mistakes.

While concrete operational children have developed a relatively stable and logical cognitive structure, this structure is not without its somewhat obvious limits. A comparison of concrete operations and formal operations suggests the following: Concrete operational children reason best when the situations are real to them. The children can reason either about experientially real situations or from strongly believed premises. Under these circumstances, the reasonsing is relatively adult-like. When however, these conditions are not met, the reasoning breaks down. Suppose for example, I were walking with a young child from a very religious background, and I asked "If there were no God, would people still know what was right and what was wrong?" In all likelihood, the child would debate the premise with me and never get to the question. Children at this stage have real difficulty reasoning from contrary-to-fact or contrary-to-belief premises. This is overcome in formal operations -- and incidentally allows now for true debates. In working with concrete operational children, the rational-emotive educator is likely to be better understood if all examples, challenges, games, etc. are drawn from real experiences.

The primacy of the real over the possible in concrete operations also suggests that concrete operational children will be less likely than their formal operational counterparts to spontaneously suggest multiple answers to the same questions. Once they have found one answer that is satisfactory, they are less likely to continue investigating other possible approaches. It is here where REE -- with its stress on the multidimensionality of people and situations -- can encourage a concrete operational child to continue to reason about a person or a situation that they have already satisfactorily described.

The goal of both rational emotive therapy and rational emotive education is to encourage people to think scientifically -- to critically examine dogmatically held beliefs. The cognitive substructures necessary for the rigourous testing of

beliefs develop in a rudimentary form in concrete operations, and in their broader more generalizable form in formal operations. The related goal then of RET and REE is to encourage the development and use of formal operations.

While Piaget contends that these stages are natural and universal, progress through all the stages is by no means guaranteed. Development results from the interaction of a genetically healthy organism and an optimally challenging environment. One is hard pressed to imagine an environment so impoverished that it does not challenge the magical theories of physical causality. Imagine how bizarre it would be to encounter a young adolescent or an adult who vigorously asserted that his hands were waving now because some outside force made him do that. Yet the psychological picture is entirely different. The average social environment does not challenge our magical theories of psychological causality; far from it. These theories are dogmatically accepted, and thus largely insulated from testing. The young adolescent or adult who vigorously asserts that she is angry because the teller locked the bank doors just as she was walking up the steps is offered empathy rather than a challenge. While operational thinking regarding physical causality may be normative; clearly in, the realm of psychological causality preoperational theories are normative. One must assume that our typical social environment is "rationally deprived." Rational emotive education, when coupled with an understanding of general cognitive development can work to reverse that deprivation. REE can contribute to an optimally challenging social environment; and that contribution can make it possible for each of us to understand that physically and psychologically we have control over little else except ourselves!

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